Abstract

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This work deals with the interaction of skin lipids and water. The epidermal lipids (especially ceramides and cholesterol) and water create together lamellar structure which is the essence of the skin barrier. To create a lipid layer we used a cholesterol and a synthetic pseudoceramide 14S24 (synthesized at the Department of Inorganic and Organic Chemistry, Faculty of Pharmacy in Hradec Králové). The ratio of these two components is chosen so that the cholesterol in the molten pseudoceramide dissolves and during cooling down doesn't separately crystallize. Samples of this mixture with water and without water were evaluated by using differential scanning calorimetry (DSC). The samples were in high-pressure sample crucibles repeatedly heated up above and below the melting point and congealing of the mixture. We watched the changes of calorimetric characteristic that may be indicative of interaction lipid mixtures with water. We find out that value of heat of melting for inserted water decreases after adding water to mixture of cholesterol and pseudoceramide. It shows on interaction of lipid components with water.